John R. McKernan, Jr.
Governor

C. Edwin Meadows, Jr.
Commissioner

DEPARTMENT OF CONSERVATION

Insect & Disease Laboratory - 50 Hospital Street - Augusta, Maine 04330-6598
Tel. (207) 287-2431 - FAX (207) 287-2432

December 6, 1993

James P. Linnane
Field Representative
Forest Health Protection
Forestry Sciences Laboratory
PO Box 640
Durham, NH 03824

Dear Jim:

Forest health worksheets are enclosed for fifty three pests and/or problems which we observed in 1993. Most of these show declines over 1992 levels except for such things as aspen leafroller, birch skeletonizer and fall cankerworm. Increases in mite populations were also noticed but not surveyed or summarized for 1993. These were especially the spruce spider mite on spruce and fir and the ash flower gall mite on male white ash. Both caused significant feeding injury to their respective hosts in some areas. Of special interest was the discovery of pinewood nematode associated with serious mortality and decline of red pine in one plantation. Heavy damage was also reported from two other plantations. Meadow voles decimated four foot European larch in a 42 acre plantation in Oxford County while black army cutworms seriously affected small black spruce in a 50 acre plantation in north central Piscataquis County. Regarding the newer diseases and "bad bugs"; we found butternut canker and dogwood anthracnose for the first time in 1993 but still have not found the hemlock woolly adelgid or Tomicus beetle in Maine.

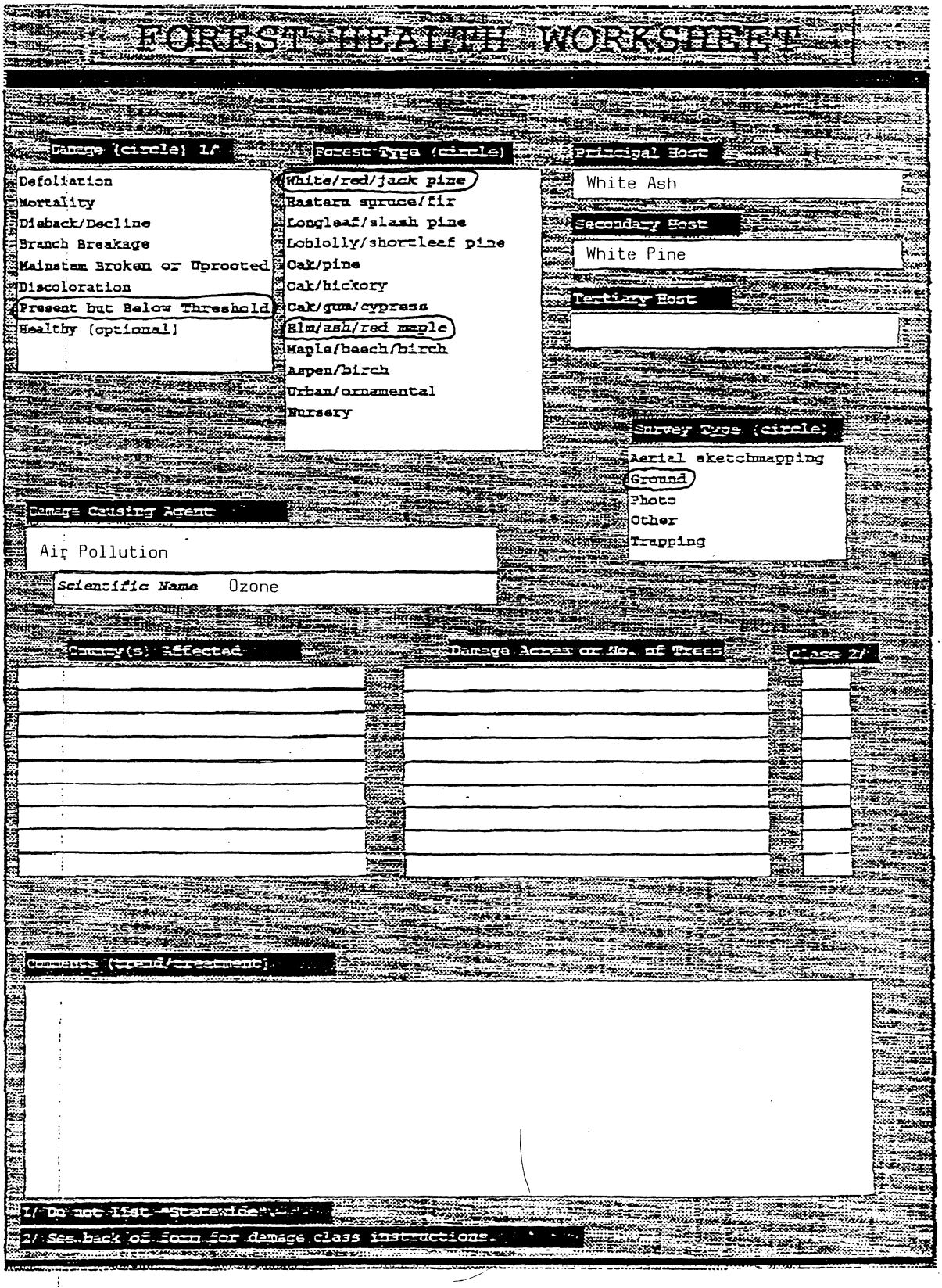
The new form has its advantages and disadvantages as you will see from the enclosed sheets which vary in the depth of coverage based upon differences in interpretation or available information. Once a final format is agreed upon, it should be pressed into use early in the season with details of what is expected. Once this is done, the results will be more consistent. I hope that you will be able to retrieve what is needed from these forms. If not give me a call.

Best regards,

Dave Struble
State Entomologist

DS:bab
Enclosures

ME



FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

White Ash

Secondary Host

White Pine

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Air Pollution

Scientific Name Ozone

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (cond/treatment)

1/ Do not list "Scarendie"

2/ See back of form for damage class instructions

MT

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Balsam Fir

Secondary Host

Red Oak

Tertiary Host

Sugar Maple

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Shoestring Root Rot Fungus

Scientific Name Armillaria spp.

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (record treatment)

1/ Do not list "Statewide"

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- (Present but Below Threshold)
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- (Elm/ash/red maple)
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Fraxinus americana

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Ash Anthracnose

Scientific Name Discula fraxinea

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (type of treatment)

1/ Do not list "Statewide"

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

American Beech

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Beech Bark Disease

Scientific Name Nectria spp.

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (Trend/Treatment)

1/ Do not list "Scarelide"

2/ See back of form for damage class instructions

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Black Cherry

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Black Knot of Cherry

Scientific Name Apiosporina morbosa

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (trend/treatment)

1/ Do not list statewide.

2/ See back of form for damage class instructions.

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- (Present but Below Threshold)
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- (Elm/ash/red maple)
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

American Elm

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Dutch Elm Disease Fungus

Scientific Name Ophiostoma novo-ulmi

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (Trend/Treatment):

1/ Do not list "Stateside".

2/ See back of form for damage class instructions.

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Balsam Fir

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Fir Broom Rust

Scientific Name Melampsorella caryophyllacearum

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (Legend/Treatment)

1/ Do not list "Scarce/Idle".

2/ See back of form for damage class instructions.

FOREST HEALTH WORKSHEET

Damage (circle) 1/

Defoliation
Mortality
Dieback/Decline
Branch Breakage
Mainstem Broken or Uprooted
Discoloration
Present but Below Threshold
Healthy (optional)

Forest Type (circle)

White/red/jack pine
Eastern spruce/fir
Longleaf/slash pine
Loblolly/shortleaf pine
Oak/pine
Oak/hickory
Oak/gum/cypress
Elm/ash/red maple
Maple/beach/birch
Aspen/birch
Urban/ornamental
Nursery

Principal Host

Balsam Fir

Secondary Host

Tertiary Host

Survey Type (circle)

Aerial sketchmapping
Ground
Photo
Other
Trapping

Damage Causing Agent

Frost Injury

Scientific Name Below 29°F

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (Legal/Treatment)

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Quaking Aspen

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Hypoxylon Canker

Scientific Name Hypoxylon spp.

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (weed/treatment)

1/ Do not list "scarce/rare".

2/ See back of form for damage class instructions.

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Balsam Fir

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Lirula Needle Cast

Scientific Name Lirula spp.

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (recent treatment)

1/ Do not list "statewide".

2/ See back of form for damage class instructions.

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Red Maple

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Maple Anthracnose Fungus

Scientific Name Kabatiella apocrypta

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (Hazard/Treatment)

1/ Do not list "Scatterdie"

2/ See back of form for damage class instructions.

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beach/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Red Maple

Secondary Host

Sugar Maple

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Maple Tar Spot

Scientific Name Rhytisma acerinum

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (Legend/Treatment)

1/ Do not list "Scatterdge"

2/ See back of form for damage class instructions.

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Quaking Aspen

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Poplar Ink Spot

Scientific Name Ciborinia whetzelii

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (Spread/Treatment)

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Eastern Hemlock

Secondary Host

Sugar Maple

Tertiary Host

Balsam Fir

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Porcupine Damage

Scientific Name Erethizon dorsatum

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (Spread/treatment)

1/ Do not list "Scarelide"

2/ See back of form for damage class instructions

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- (Present but Below Threshold)
- Healthy (optional)

Forest Type (circle)

- (White/red/jack pine)
- (Eastern spruce/fir)
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- (Maple/beech/birch)
- Aspen/birch
- (Urban/ornamental)
- Nursery

Principal Host

Hemlock

Secondary Host

White Birch

Tertiary Host

Quaking Aspen

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Sapsucker Injury

Scientific Name

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (trend/treatment):

1/ Do not list statewide.

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

White Pine

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

White Pine Blister Rust Fungus

Scientific Name Cronartium ribicola

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (Speed/Treatment)

1/ Do not list "Scarce/Abundant"

2/ See back of form for damage class instructions

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- (Present but Below Threshold)
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- (Eastern spruce/fir)
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- (Maple/beech/birch)
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Balsam Fir

Secondary Host

Red Maple

Tertiary Host

Bigtooth Aspen

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Wind

Scientific Name

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (trend/treatment):

1/ Do not list Statewide.

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- (Discoloration)
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- (Eastern spruce/fir)
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Red Spruce

Secondary Host

Tertiary Host

Survey Type (circle)

- (Aerial sketchmapping)
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Winter Browning

Scientific Name Cold Temperature Injury

County(s) Affected	Damage Acres or No. of Trees	Class 2/
Oxford	65,856	3
Somerset	125,440	3
Piscataquis	68,992	1
Franklin	75,264	1

Comments (regard/treatment)

1/ Do not list "Statewide"

2/ See back of form for damage class instructions.

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Butternut

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Butternut Canker Fungus

Scientific Name Sirococcus clavigignenti-juglandacearum

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (trend/treatment)

Preliminary surveys for this disease confirm it to be present in at least four Maine counties: Kennebec, Sagadahoc, Lincoln and Waldo

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery
- Red Pine Plantation

Principal Host: Red Pine

Secondary Host:

Tertiary Host:

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent: Sirococcus Shoot Blight Fungus

Scientific Name Sirococcus conigenus

County(s) Affected	Damage Acres or No. of Trees	Class 2/
Waldo	40	3

Comments (treatment):

1/ Do not list "statewide"

2/ See back of form for damage class instructions.

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beach/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Flowering Dogwood

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Dogwood Anthracnose Fungus

Scientific Name Discula destructiva

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (type-id/treatment)

1/ Do not list statewide.

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- (Defoliation)
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- (Eastern spruce/fir)
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Eastern Larch

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Larch Sawfly

Scientific Name Pristiphora erichsonii

County(s) Affected	Damage Acres or No. of Trees	Class 2/
S. Piscataquis	100 acres ±	1

Comments (trend/treatment)

Two separate areas were involved: a semimature plantation and a natural stand.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

(Defoliation)
Mortality
Dieback/Decline
Branch Breakage
Mainstem Broken or Uprooted
Discoloration
Present but Below Threshold
Healthy (optional)

Forest Type (circle)

White/red/jack pine
Eastern spruce/fir
Longleaf/slash pine
Loblolly/shortleaf pine
Oak/pine
Oak/hickory
Oak/gum/cypress
Elm/ash/red maple
Maple/beech/birch
(Aspen/birch)
Urban/ornamental
Nursery

Principal Host

Trembling Aspen

Secondary Host

Bigtooth Aspen

Tertiary Host

Survey Type (circle)

(Aerial sketchmapping)
(Ground)
Photo
Other
Trapping

Damage Causing Agent

Aspen Leafroller

Scientific Name Pseudexentera oregonana

County(s) Affected	Damage Acres or No. of Trees	Class 2/
E. central Aroostook	50,000 acres	4
N. Piscataquis	20,000 acres	4

Comments (trend/treatment)

Populations of this species could be found nearly everywhere across northern Maine in 1993 but damage was heaviest within the area shown. A complex of other species occurred within this same area.

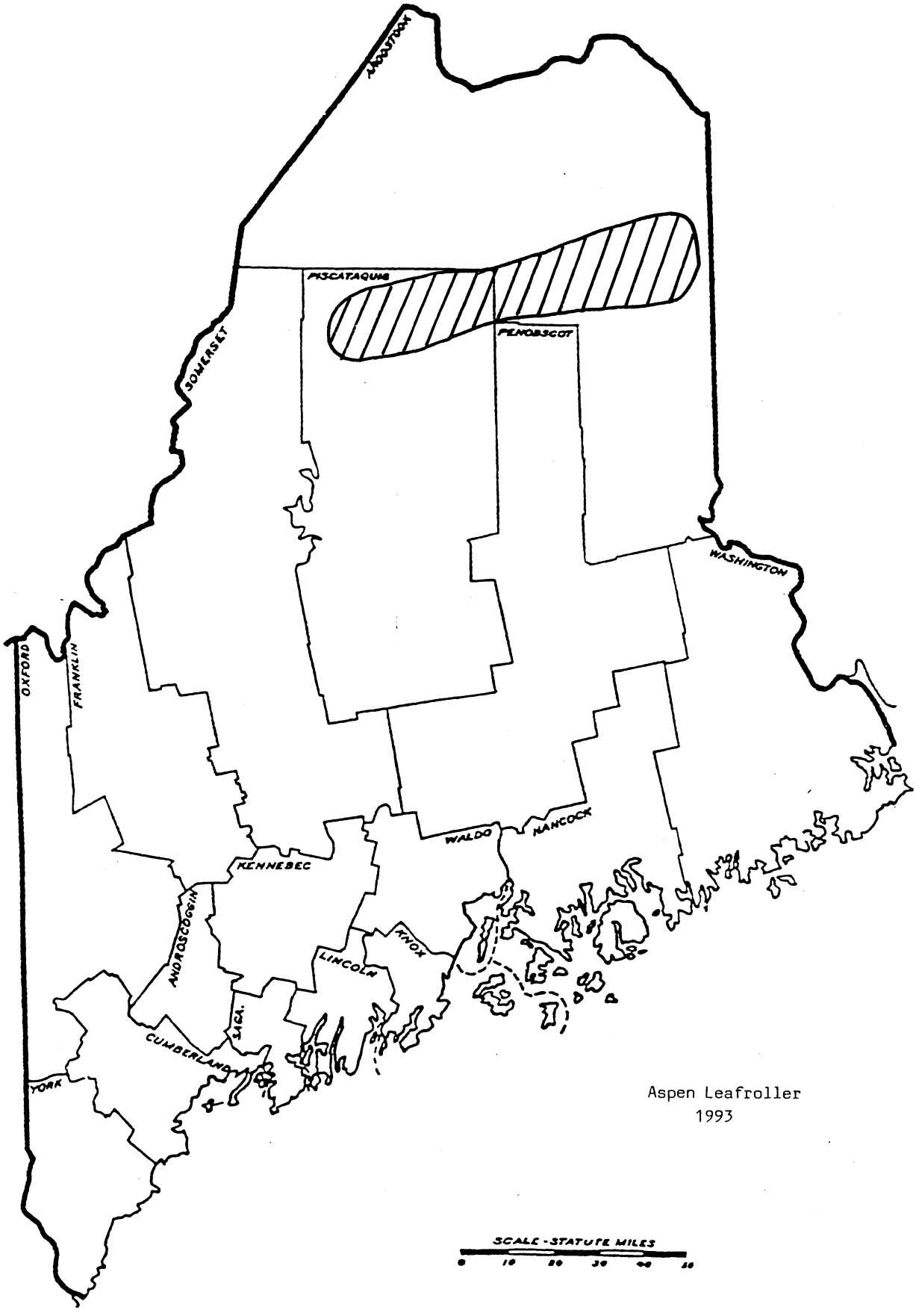
1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

1993

MAINE



Aspen Leafroller
1993

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- (Defoliation)
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- (Maple/beech/birch)
- (Aspen/birch)
- (Urban/ornamental)
- Nursery

Principal Host: White Birch

Secondary Host: Gray Birch

Tertiary Host: Yellow Birch

Survey Type (circle)

- (Aerial sketchmapping)
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent: Birch Leafminer

Scientific Name: Messa nana

County(s) Affected	Damage Acres or No. of Trees	Class 2/
Franklin	Most of birch type	2
S. Hancock		4
Kennebec		2
Knox		2
Lincoln		2
S. Penobscot		2
S. Somerset		2
Waldo		4
S. Washington		

Comments (trend/treatment)

Populations and damage locally heavy in areas listed. Light elsewhere.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- (Defoliation)
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- (Maple/beech/birch)
- (Aspen/birch)
- (Urban/ornamental)
- Nursery

Principal Host

White Birch

Secondary Host

Gray Birch

Tertiary Host

Yellow Birch

Survey Type (circle)

- (Aerial sketchmapping)
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Birch Skeletonizer

Scientific Name Bucculatrix canadensisella

County(s) Affected	Damage Acres or No. of Trees	Class 2/
Androscoggin	Most of the birch	4
Aroostook		4
Franklin		4
Hancock		4
Kennebec		4
Oxford		4
Penocscot		4
Waldo		4

Comments (trend/treatment)

Damage to birch by this late season feeder was evident throughout the state but heaviest in the counties noted. Acreage was very broken up and difficult to determine. Nearly all of the birch type in Maine was hit. This was the heaviest damage seen in more than 30 years.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- (Mortality)
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- (Discoloration)
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- (White/red/jack pine)
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery
- (Plantation)

Principal Host

Red Pine

Secondary Host

White Pine

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Saratoga Spittlebug

Scientific Name Aphrophora saratogensis

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (trend/treatment)

No new areas found in 1993. Most trees which had been heavily damaged in the past had either outgrown the problem or been destroyed.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

(Defoliation)
Mortality
Dieback/Decline
Branch Breakage
(Mainstem Broken) or Uprooted
Discoloration
Present but Below Threshold
Healthy (optional)

Forest Type (circle)

White/red/jack pine
Eastern spruce/fir
Longleaf/slash pine
Loblolly/shortleaf pine
Oak/pine
Oak/hickory
Oak/gum/cypress
Elm/ash/red maple
Maple/beech/birch
Aspen/birch
Urban/ornamental
Nursery
(Plantation)

Principal Host

Black Spruce

Secondary Host

Tertiary Host

Survey Type (circle)

Aerial sketchmapping
(Ground)
Photo
Other
Trapping

Damage Causing Agent

Black Army Cutworm

Scientific Name Actebia fennica

County(s) Affected	Damage Acres or No. of Trees	Class 2/
N. central Piscataquis (T4 R12)	50 + acres	4

Comments (trend/treatment)

Seedlings cut and destroyed over much of the plantation. This area had been burned the year before and fireweed was abundant.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- (Defoliation)
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- (Maple/beech/birch)
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Sugar Maple

Secondary Host

Beech

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Bruce Spanworm

Scientific Name Operophtera bruceata

County(s) Affected	Damage Acres or No. of Trees	Class 2/
Franklin	Spotty	
Oxford	Several thousand acres? <5000	
Piscataquis (Northern)	2500 acres ±	
Somerset	Spotty	

Comments (trend/treatment)

Canopy damage was light in 1993 but damage to understory trees ran from moderate to heavy in some areas. Populations seem to be up from previous levels and moth activity was noticeable in the fall of 1993. Moth activity was up in Aroostook County as well but with little damage evident.

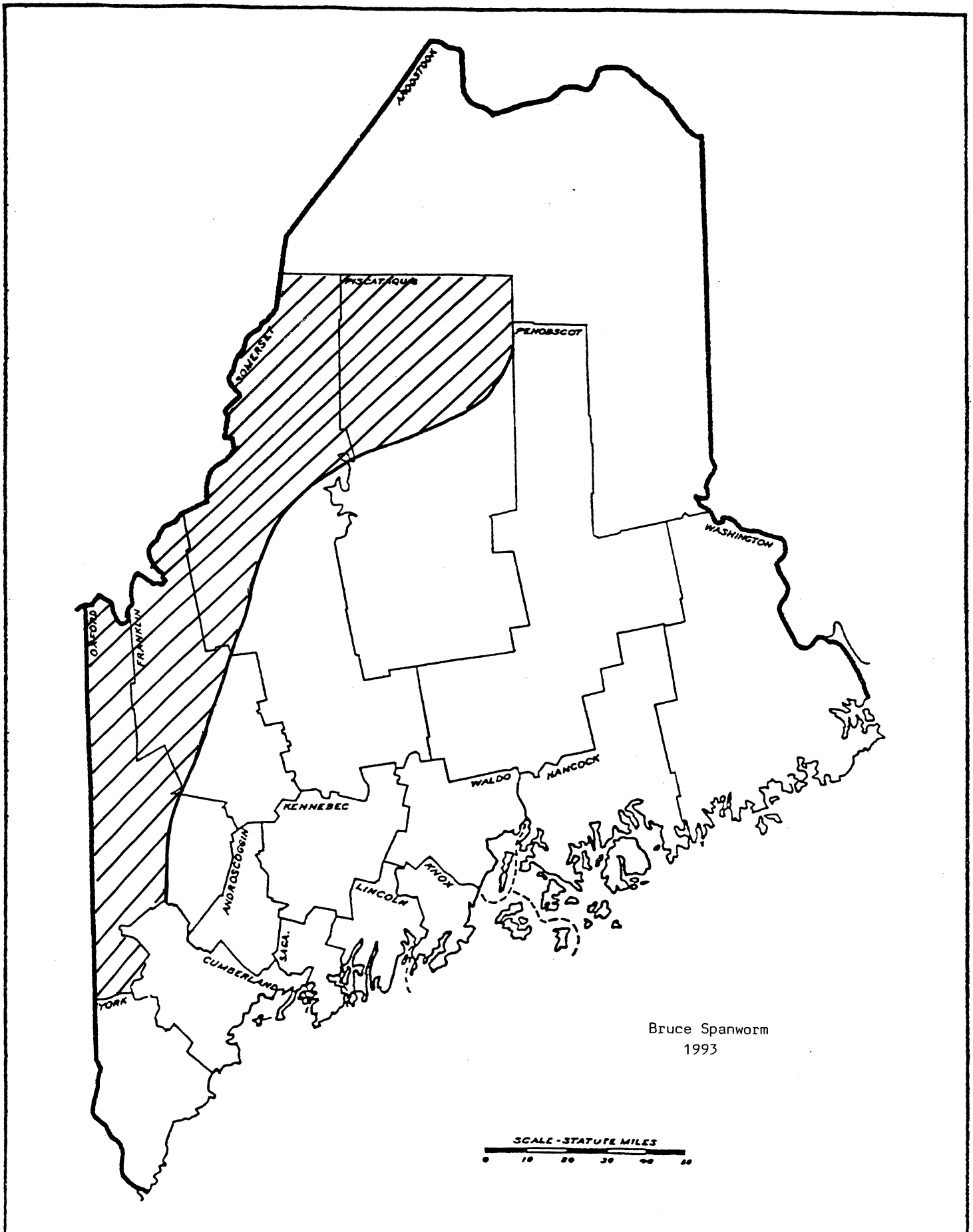
1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

1993

MAINE



ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- (Defoliation)
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- (Aspen/birch)
- Urban/ornamental
- Nursery

Principal Host

Poplars

Secondary Host

Tertiary Host

Survey Type (circle)

- (Aerial sketchmapping)
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Forest Tent Caterpillar

Scientific Name Malacosoma disstria

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (trend/treatment)

No defoliation or indications of rising populations reported in 1993.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

(Defoliation)
Mortality
Dieback/Decline
Branch Breakage
Mainstem Broken or Uprooted
Discoloration
Present but Below Threshold
Healthy (optional)

Forest Type (circle)

White/red/jack pine
Eastern spruce/fir
Longleaf/slash pine
Loblolly/shortleaf pine
Oak/pine
Oak/hickory
Oak/gum/cypress
Elm/ash/red maple
Maple/beech/birch
Aspen/birch
(Urban/ornamental)
Nursery

Principal Host

Boxelder Maple

Secondary Host

Willow

Tertiary Host

Survey Type (circle)

Aerial sketchmapping
(Ground)
Photo
Other
Trapping

Damage Causing Agent

Fall Cankerworm

Scientific Name Alsophila pometaria

County(s) Affected	Damage Acres or No. of Trees	Class 2/
E. Aroostook	Hundreds of trees	3

Comments (trend/treatment)

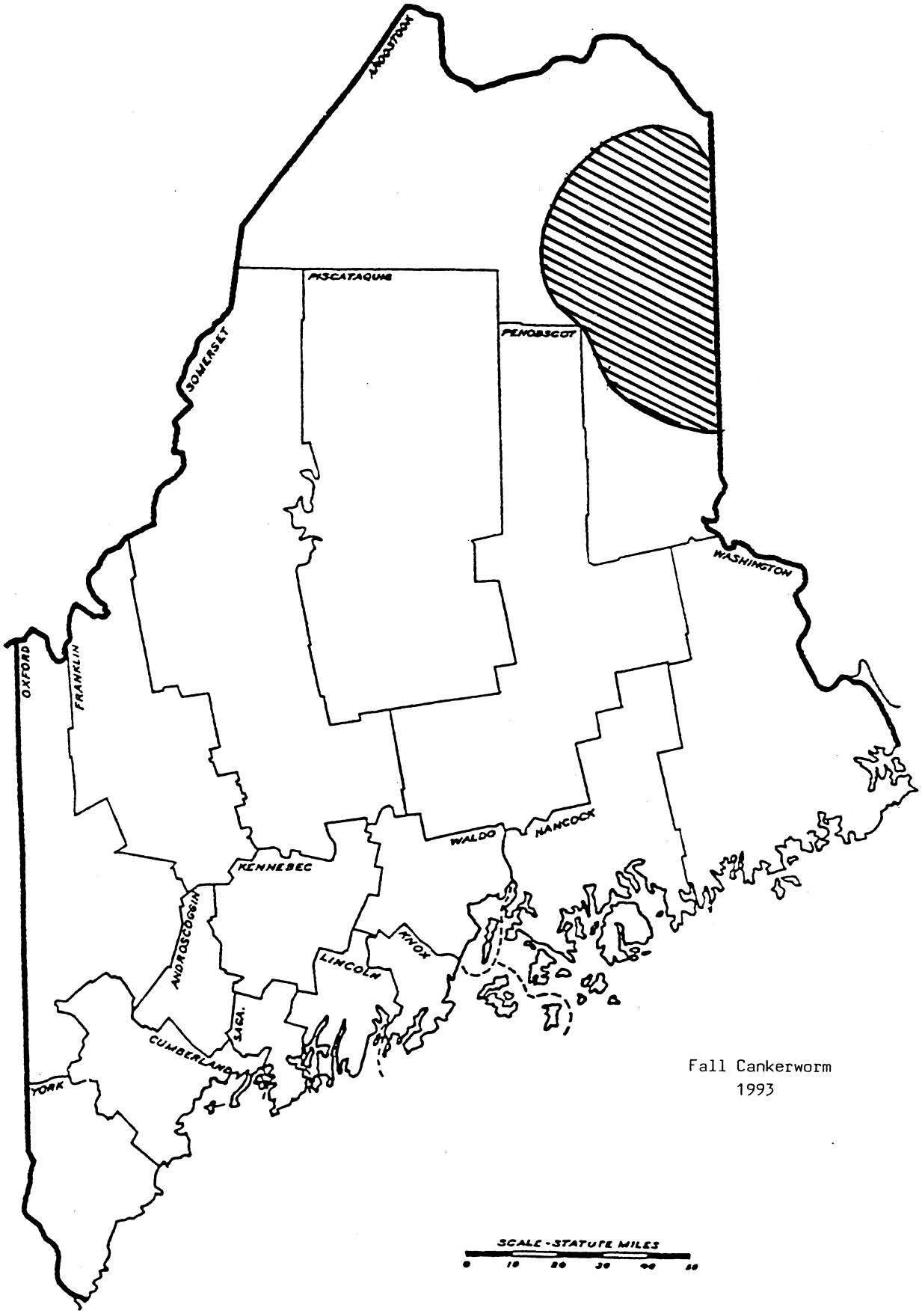
Populations up strikingly in the area shown. Many host trees stripped completely and very visible at a distance in June. Some trees which were stripped in 1992 exhibited some branch mortality. Surprisingly little defoliation was seen on forest trees, even elm and oak!

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

1993

MAINE


AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
WASHINGTON
OXFORD
FRANKLIN
WALDO
HANCOCK
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
SAG.
CUMBERLAND
YORK
Fall Cankerworm
1993
SCALE - STATUTE MILES
0 10 20 30 40 50

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

Defoliation
Mortality
(Dieback/Decline)
Branch Breakage
Mainstem Broken or Uprooted
Discoloration
Present but Below Threshold
Healthy (optional)

Forest Type (circle)

(White/red/jack pine)
Eastern spruce/fir
Longleaf/slash pine
Loblolly/shortleaf pine
Oak/pine
Oak/hickory
Oak/gum/cypress
Elm/ash/red maple
Maple/beech/birch
Aspen/birch
(Urban/ornamental)
Nursery

Principal Host

Hemlock

Secondary Host

Tertiary Host

Survey Type (circle)

Aerial sketchmapping
(Ground)
Photo
Other
Trapping

Damage Causing Agent

Hemlock Woolly Adelgid

Scientific Name Adelges tsugae

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (trend/treatment)

Not yet reported from Maine.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- (Defoliation)
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- (Maple/beech/birch)
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Sugar Maple

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Pear Thrips

Scientific Name Taeniothrips inconsequens

County(s) Affected	Damage Acres or No. of Trees	Class 2/

Comments (trend/treatment)

Populations remained generally very low again in 1993 with little or no damage.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- (Defoliation)
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- (Eastern spruce/fir)
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- (Urban/ornamental)
- Nursery

Principal Host

White Spruce

Secondary Host

Norway Spruce

Tertiary Host

Colorado Blue Spruce

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Yellowheaded Spruce Sawfly

Scientific Name Pikonema alaskensis

County(s) Affected	Damage Acres or No. of Trees	Class 2/
Androscoggin	Scattered trees	3
Aroostook		3
Cumberland		3
Hancock		3
Kennebec		3
Knox		3
Lincoln		3
Penobscot		3
Sagadahoc & Waldo		3

Comments (trend/treatment)

Although populations were up generally over the state again in 1993, damage was most severe and widespread in the counties listed. Most of the trees affected were open grown and scattered along roadsides or in fields or at the edge of plantations and forest stands.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- (Defoliation)
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- (Elm/ash/red maple)
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

White Ash

Secondary Host

American Elm

Tertiary Host

Cherry

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Fall Webworm

Scientific Name Hyphantria cunea

County(s) Affected	Damage Acres or No. of Trees	Class 2/
Androscoggin	Spotty	1
Cumberland		2
Sagadahoc		1
York		2

Comments (trend/treatment)

Defoliation by this species declined in most areas of the state except in the four counties listed where damage was locally heavy. York and Cumberland Counties had the highest populations.

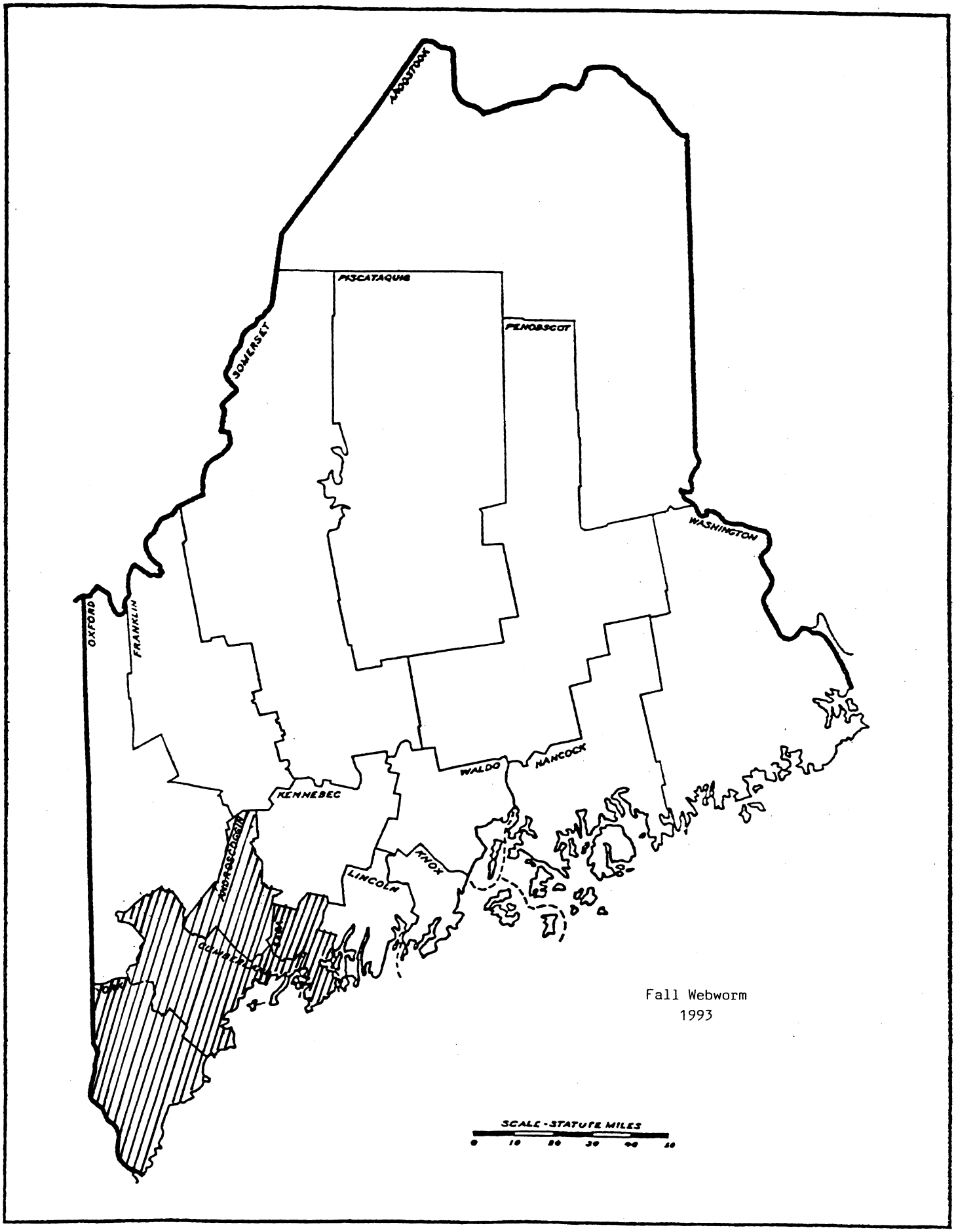
1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

1993

MAINE



ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- (Defoliation)
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- (Eastern spruce/fir)
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Balsam Fir

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Balsam Fir Sawfly

Scientific Name Neodiprion abietis

County(s) Affected	Damage Acres or No. of Trees	Class 2/
SW Washington	2,500 acres	2

Comments (trend/treatment)

Populations appeared to decline in 1993 from 1992 levels although there was some evidence of defoliation throughout the area defoliated in 1992 (25,000 acres). Defoliation was most visible on roughly 2,500 acres in 1993.

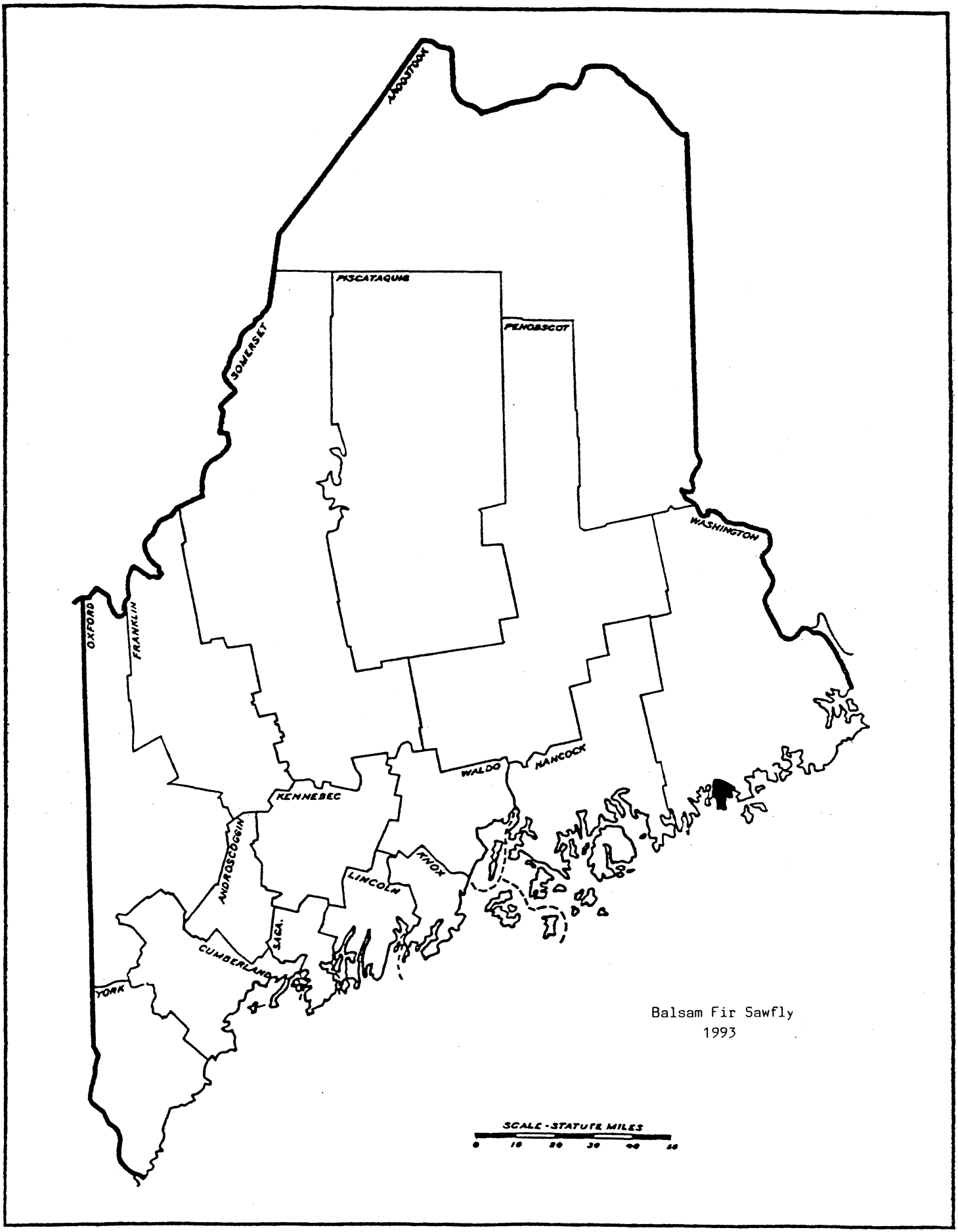
1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

1993

MAINE



ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- (Defoliation)
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- (Eastern spruce/fir)
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Northern White Cedar

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Arborvitae Leaf Miners

Scientific Name Argyresthia spp.
Pulicalvaria thujaella

County(s) Affected	Damage Acres or No. of Trees	Class 2/
Statewide	Unknown	0

Comments (trend/treatment)

Populations are at low levels throughout the state.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- (Present but Below Threshold)
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- (Eastern spruce/fir)
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Abies balsamea

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Balsam Gall Midge

Scientific Name Paradiplosis tumifex

County(s) Affected	Damage Acres or No. of Trees	Class 2/
None		0

Comments (trend/treatment)

This insect is often a serious pest of balsam fir cultured for Christmas trees. Populations are down this year.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- (Present but Below Threshold)
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- (Eastern spruce/fir)
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Balsam Fir

Secondary Host

White Spruce

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Balsam Twig Aphid

Scientific Name Mindarus abietinus

County(s) Affected	Damage Acres or No. of Trees	Class 2/
All counties	N/A	0

Comments (trend/treatment)

Populations have dropped dramatically from 1992 epidemic levels when the wreath industry was very seriously impacted.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- (Dieback/Decline)
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- (Present but Below Threshold)
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- (Aspen/birch)
- Urban/ornamental
- Nursery

Principal Host

White Birch

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Birch dieback resulting from defoliation by Birch Casebearer

Scientific Name Coleophora

County(s) Affected	Damage Acres or No. of Trees	Class 2/
Washington		0
Franklin		0
Oxford		0

Comments (trend/treatment)

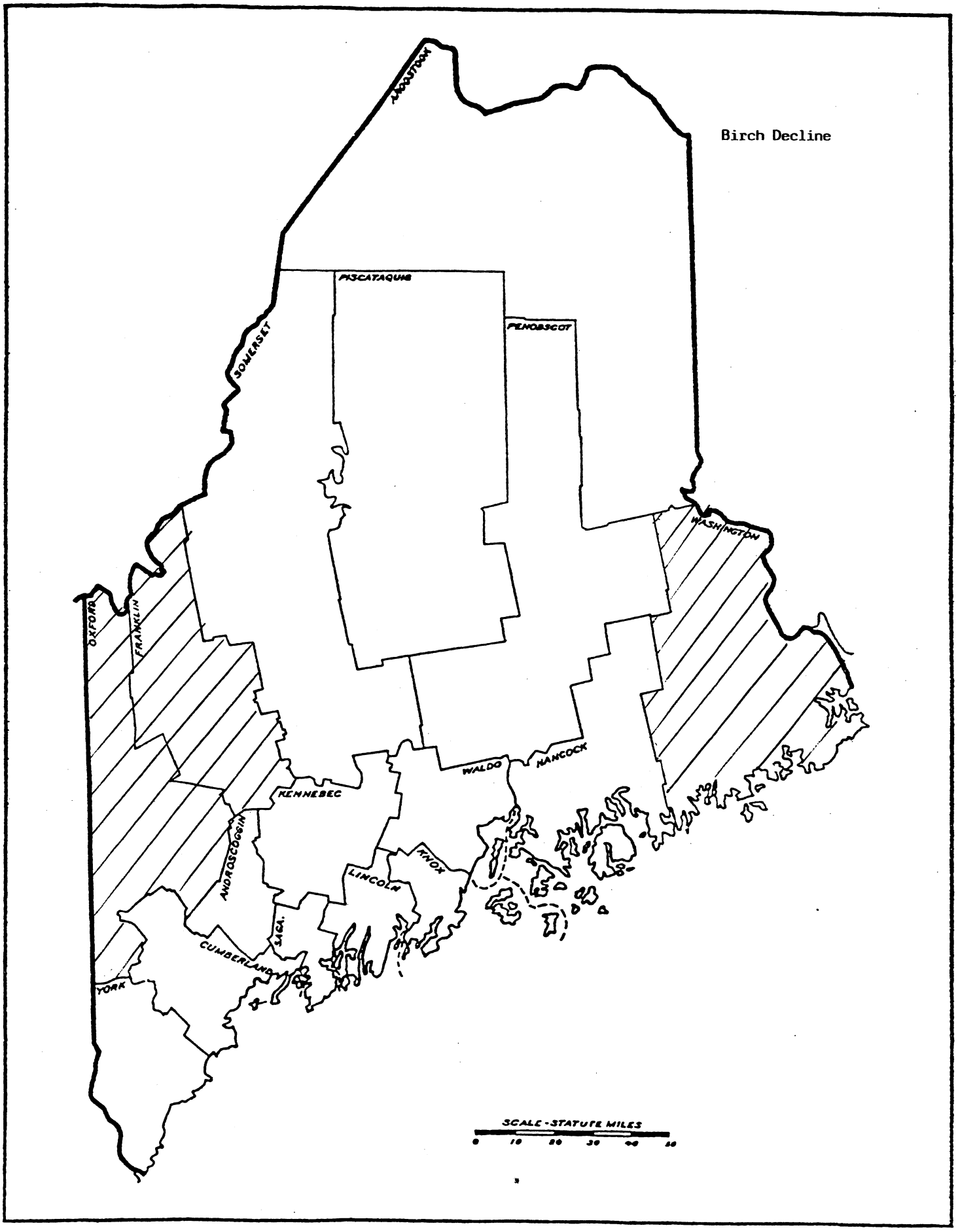
The project has been monitoring the recovery of white birch from severe defoliation by the birch casebearer in the mid 1980's.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

1993

MAINE


Birch Decline
AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
WASHINGTON
OXFORD
FRANKLIN
WALDO
HANCOCK
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
SAGA.
CUMBERLAND
YORK
SCALE - STATUTE MILES
0 10 20 30 40 50

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

(Defoliation)
Mortality
Dieback/Decline
Branch Breakage
Mainstem Broken or Uprooted
Discoloration
Present but Below Threshold
Healthy (optional)

Forest Type (circle)

White/red/jack pine
Eastern spruce/fir
Longleaf/slash pine
Loblolly/shortleaf pine
(Oak/pine)
Oak/hickory
Oak/gum/cypress
Elm/ash/red maple
Maple/beech/birch
Aspen/birch
Urban/ornamental
Nursery

Principal Host

Red Oak

Secondary Host

Various shrubs

Tertiary Host

Survey Type (circle)

Aerial sketchmapping
(Ground)
Photo
Other
Trapping

Damage Causing Agent

Browntail Moth

Scientific Name Euproctis chrysorrhoea

County(s) Affected	Damage Acres or No. of Trees	Class 2/
Cumberland County	65 acres	1

Comments (trend/treatment)

The pest had double appl. of Foray 48B tested against it unsuccessfully. This insect is a serious medical problem within infested areas due to urticating hairs of the larvae.

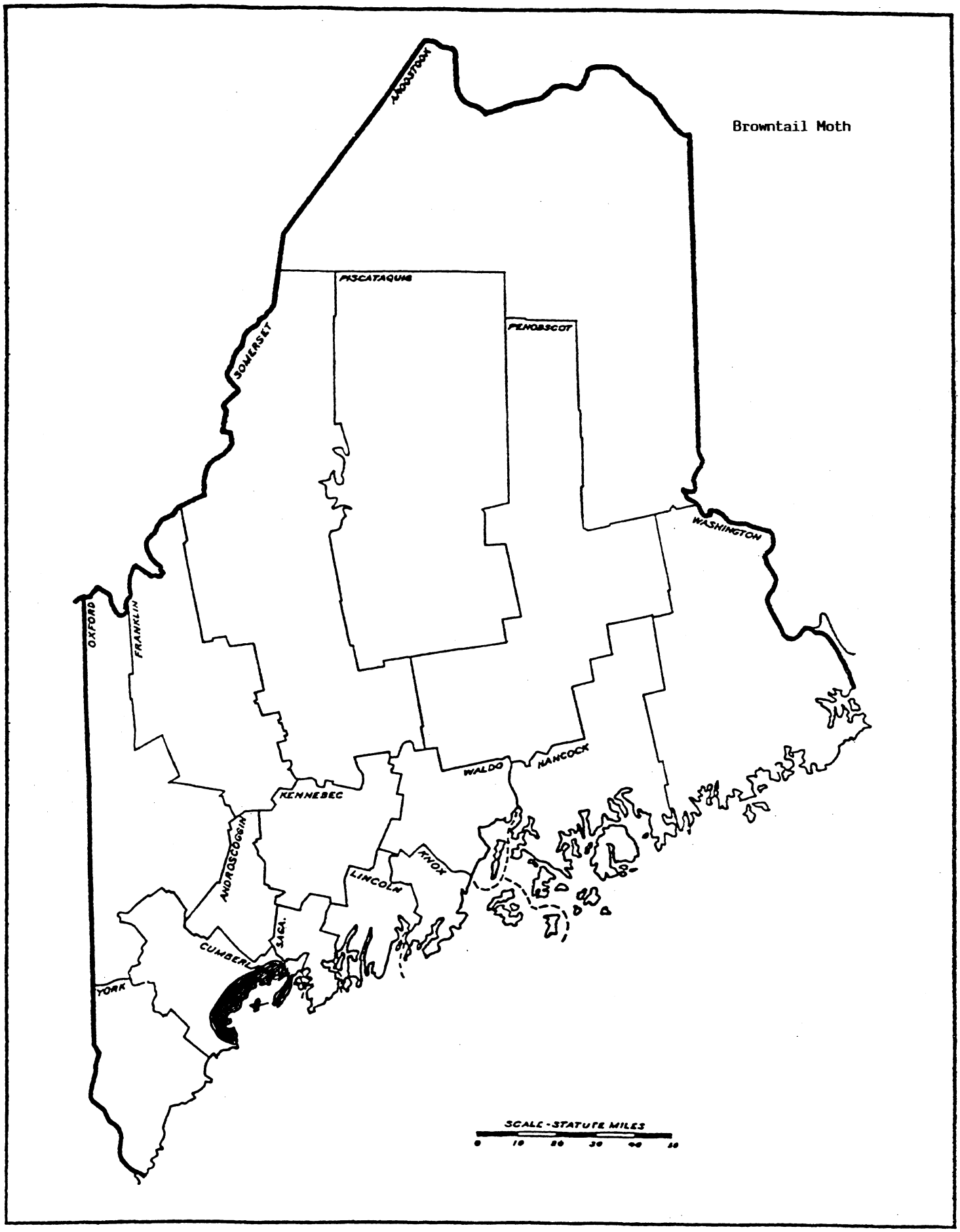
1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

1993

MAINE



ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- (Defoliation)
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- (Oak/pine)
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Red Oak

Secondary Host

Other Hardwoods

Tertiary Host

Softwoods

Survey Type (circle)

- (Aerial sketchmapping)
- Ground
- Photo
- Other
- Trapping

Damage Causing Agent

Gypsy Moth

Scientific Name Lymantria dispar

County(s) Affected	Damage Acres or No. of Trees	Class 2/
York	44,329 acres	3

Comments (trend/treatment)

Populations have collapsed. This pest is expected to be at endemic population levels in 1994.

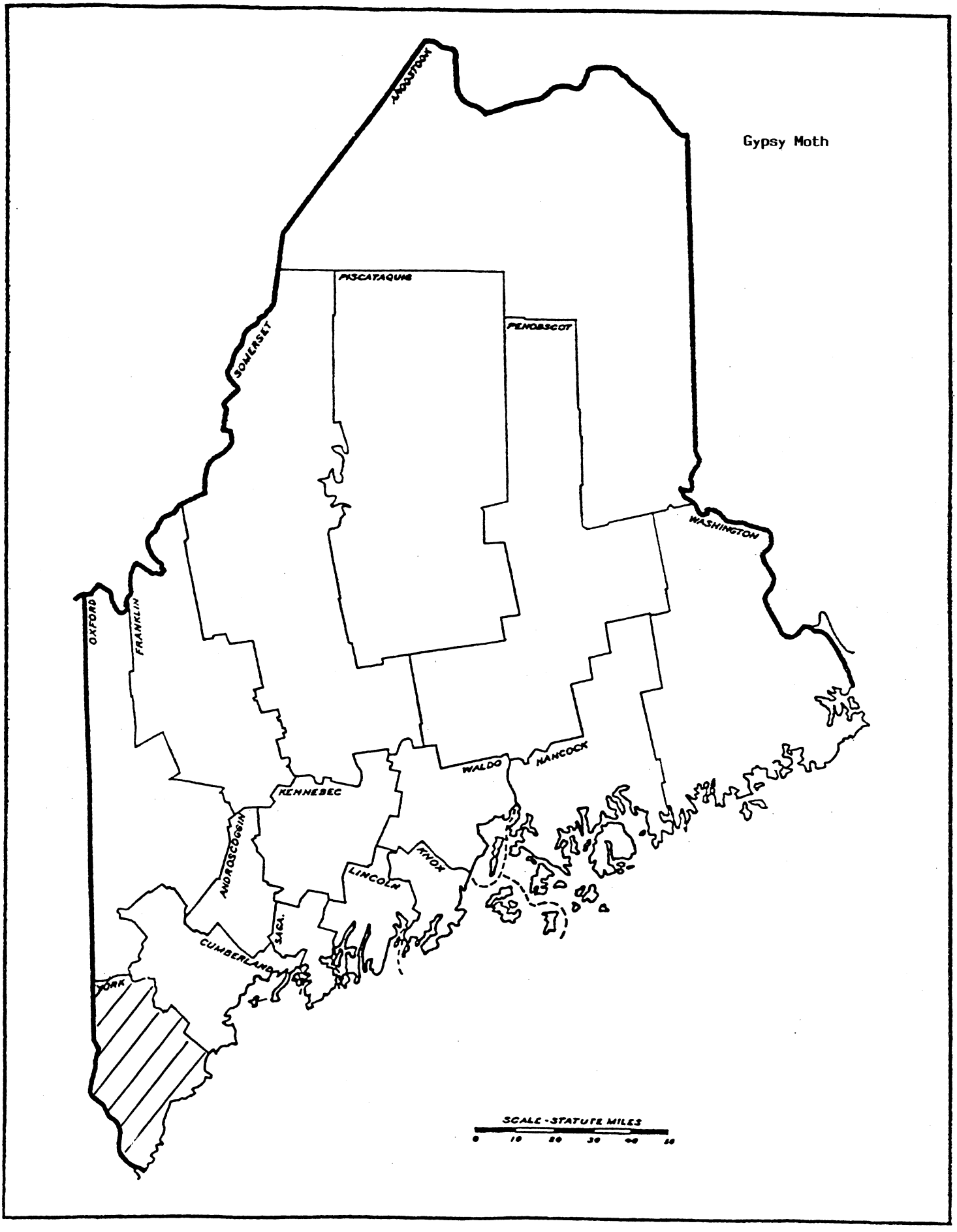
1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

1993

MAINE



ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- (Mortality)
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- (Present but Below Threshold)
- Healthy (optional)

Forest Type (circle)

- White/red/jack pine
- (Eastern spruce/fir)
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Eastern Larch

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Larch Bark Beetle

Scientific Name Dendroctonus simplex

County(s) Affected	Damage Acres or No. of Trees	Class 2/
All counties	below threshold	0

Comments (trend/treatment)

Mortality caused by this beetle was very common from the mid 1970s into the early 90's. Expansion of mortality is estimated to be slowing. A more detailed study is planned for 1994.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- Branch Breakage
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- (Healthy (optional))

Forest Type (circle)

- White/red/jack pine
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- (Maple/beech/birch)
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

Sugar Maple

Secondary Host

Tertiary Host

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

Sugar Maple Decline

Scientific Name ?

County(s) Affected	Damage Acres or No. of Trees	Class 2/
Oxford	All acreage	0
Somerset		0
Piscataquis		0
Franklin		0

Comments (trend/treatment)

Data obtained from NAMP plots continue to exhibit the good health of sugar maples monitored.

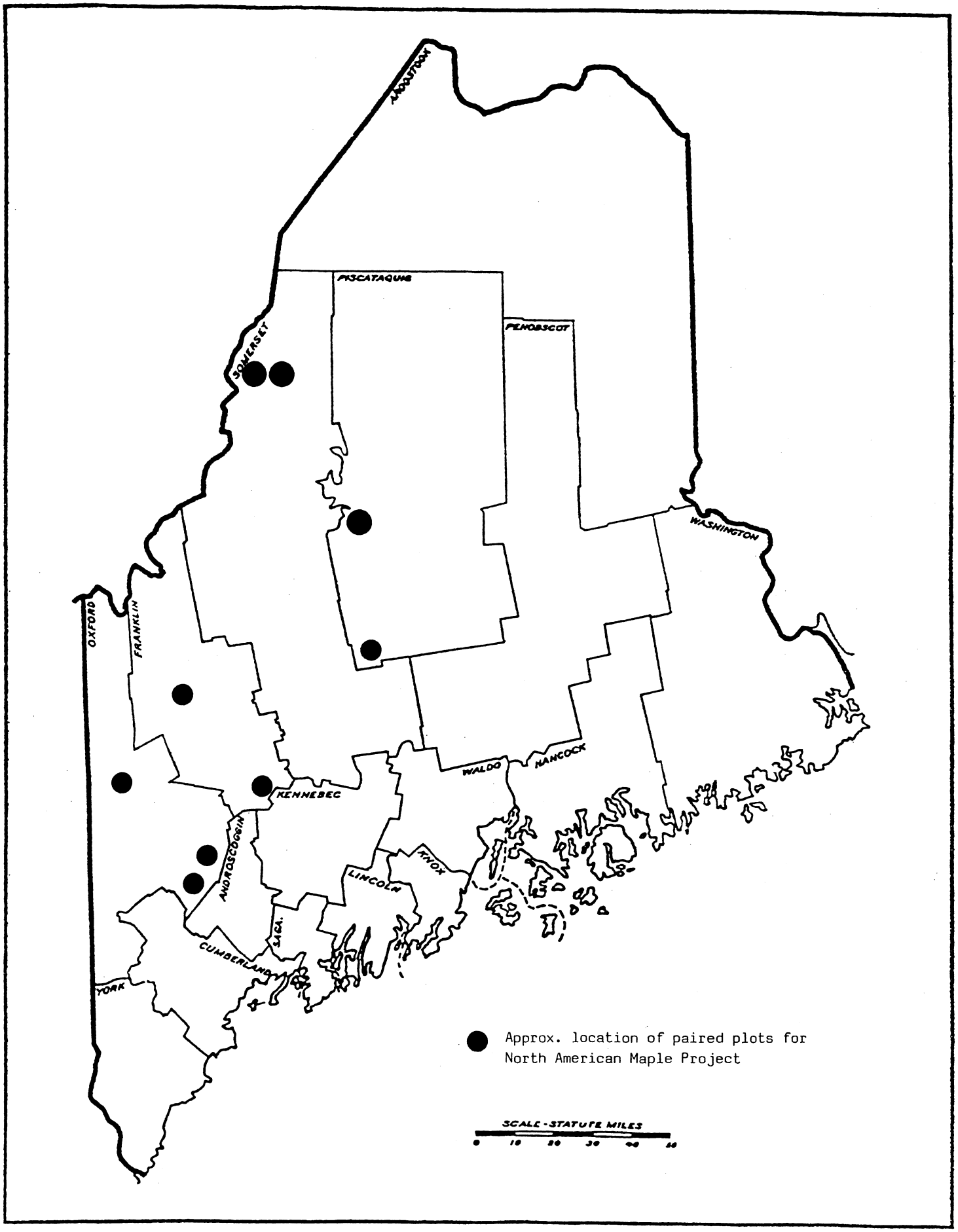
1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

1993

MAINE



ME

FOREST HEALTH WORKSHEET

Damage (circle) 1/

- Defoliation
- Mortality
- Dieback/Decline
- (Branch Breakage)
- Mainstem Broken or Uprooted
- Discoloration
- Present but Below Threshold
- Healthy (optional)

Forest Type (circle)

- (White/red/jack pine)
- Eastern spruce/fir
- Longleaf/slash pine
- Loblolly/shortleaf pine
- Oak/pine
- Oak/hickory
- Oak/gum/cypress
- Elm/ash/red maple
- Maple/beech/birch
- Aspen/birch
- Urban/ornamental
- Nursery

Principal Host

White Pine

Secondary Host

Various spruces

Tertiary Host

Other pines

Survey Type (circle)

- Aerial sketchmapping
- (Ground)
- Photo
- Other
- Trapping

Damage Causing Agent

White Pine Weevil

Scientific Name Pissodes strobi

County(s) Affected	Damage Acres or No. of Trees	Class 2/
All counties		0

Comments (trend/treatment)

White pine weevil causes serious stem deformity on much of the regenerating white pine within the state. Mortality of the main leader may be as high as 90+% in plantations 4' in height or more.

1/ Do not list "Statewide".

2/ See back of form for damage class instructions.

ME

FOREST HEALTH WORKSHEET

DAMAGE (circle) 1
(Defoliation)
Mortality
Dieback/Decline
Branch Breakage
Mainstrem Broken or Uprooted
Discoloration
Present but Below Threshold
Healthy

FOREST TYPE (circle)
White/red/jack pine
Eastern spruce/fir
Oak/pine
Elm/ash/red maple
Maple/beech/birch
(Aspen/birch)

PRINCIPAL HOST
Trembling Aspen

SECONDARY HOST

TERTIARY HOST

SURVEY TYPE (circle)
(Aerial sketchmapping)
(Ground)
Photo
Other
Trapping

DAMAGE CAUSING AGENT
Large Aspen Tortrix
Scientific Name
Choristoneura conflictana

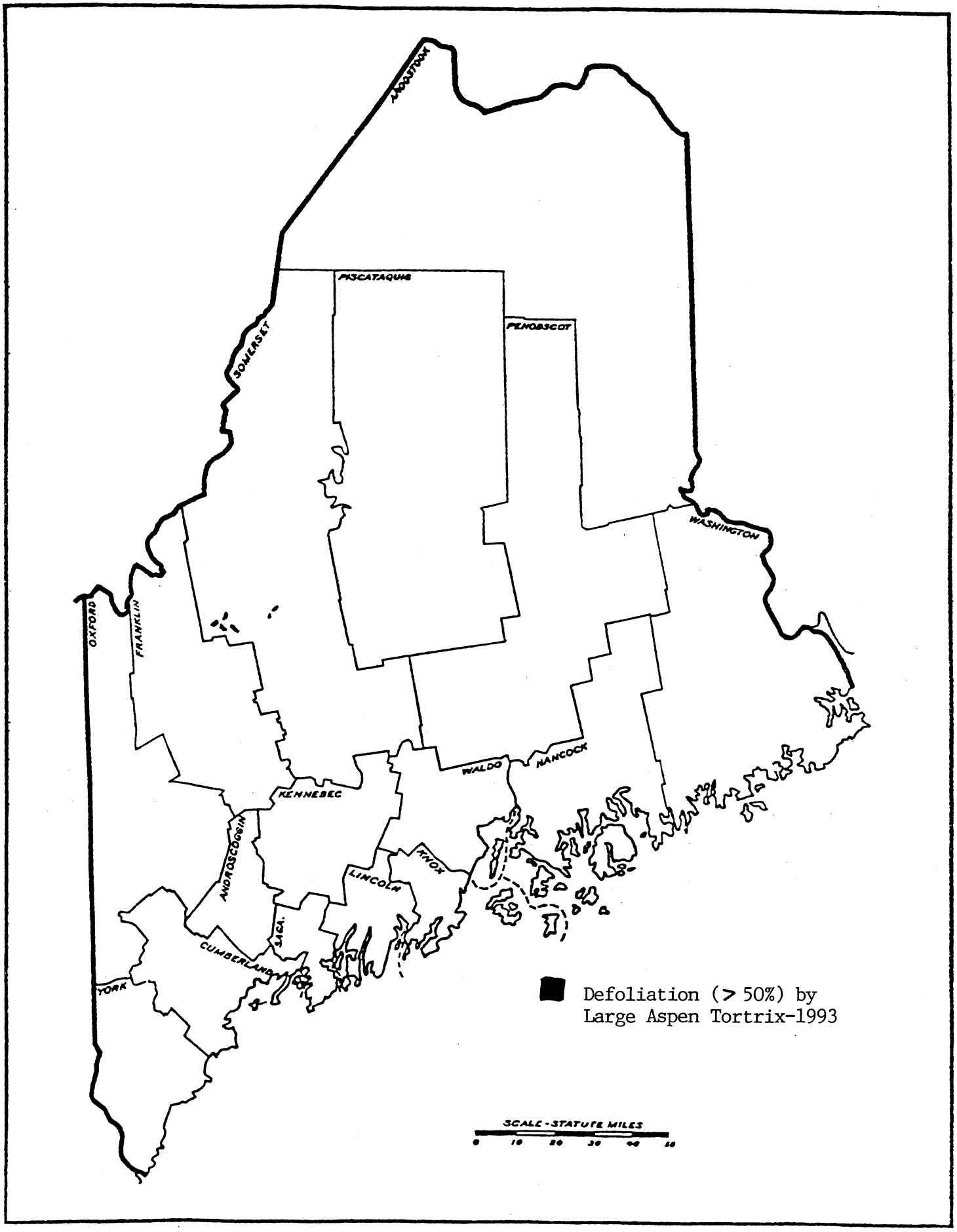
COUNTY(S)	DAMAGE ACRES OR NO. OF TREES	CLASS 2
Somerset	900	4

COMMENTS (trend/treatment)

Defoliation by this insect decreased sharply in 1993 to 900 acres compared to 22,000 acres in 1992. Most of the reduction was due to the complete lack of defoliation in Aroostook County were most of the damage had occurred in 1992. Defoliation occurred in the same parts of Somerset County as last year but the defoliated areas were somewhat smaller.

1993

MAINE


AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
WASHINGTON
OXFORD
FRANKLIN
WALDO
HANCOCK
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
SAGA.
CUMBERLAND
YORK
Defoliation (> 50%) by
Large Aspen Tortrix-1993
SCALE - STATUTE MILES
0 10 20 30 40 50

MF

FOREST HEALTH WORKSHEET

DAMAGE (circle) 1
Defoliation
Mortality
(Dieback/Decline)
Branch Breakage
Mainstrem Broken or Uprooted
Discoloration
Present but Below Threshold
Healthy

FOREST TYPE (circle)
White/red/jack pine
Eastern spruce/fir
Oak/pine
(Elm/ash/red maple)
Maple/beech/birch
Aspen/birch

PRINCIPAL HOST
Brown (Black) Ash

SECONDARY HOST

TERTIARY HOST

SURVEY TYPE (circle)
(Aerial sketchmapping)
(Ground)
Photo
(Other) Plots
Trapping

DAMAGE CAUSING AGENT
Brown ash decline - cause unknown
Scientific Name

COUNTY(S)	DAMAGE ACRES OR NO. OF TREES	CLASS 2
Somerset	4,800	3
	2,800	1
Piscataquis	4,900	3
	2,900	1
Aroostook	19,900	3
	11,900	1
Washington	9,900	3
	5,900	1
Oxford	1,300	3
	800	1
Penobscot	18,000	3
	10,700	1
Franklin	1,200	3
	700	1
Hancock	4,500	3
	2,400	1
Waldo	1,800	3
	1,100	1
Kennebec	1,800	3
	1,100	1
Androscoggin	1,300	3
	800	1
Knox	700	3
	400	1
Lincoln	800	3
	400	1
Sagadahoc	900	3
	500	1
Cumberland	1,900	3
	1,100	1
York	1,800	3
	1,000	1
	120,000	

ME

COMMENTS (trend/treatment)

Brown ash in Maine has been in a state of decline for several years. This decline has caused concern among the members of Maine's Native American tribes because brown ash provides the raw material for basket making. Basket making is extremely important to these people for economic, cultural and artistic reasons. A statewide shortage of basket quality brown ash has been made much worse by rapidly declining tree condition.

In response to Tribal concerns and an overall concern for the brown ash resource, the MFS began surveys of brown ash occurrence and condition in 1992. Currently, 60 permanent plots have been established throughout the state to evaluate brown ash condition and to study possible causal relationships. Based on these plots and other aerial and ground surveys, The MFS has concluded that nearly all the state's brown ash has been affected to some degree by this decline.

To determine the amount of damaged ash the MFS has employed a combination of forest inventory and MFS plot data. U.S. Forest Service inventory data identified a total of 166,000 acres of ash type. If data derived for the MFS plots are considered as representative for the type, which they probably are, 47% of the brown ash has severe dieback (>50% - class 3), and 28% has class 1 damage (30 to 50%). Nearly all of the remaining 25% of the brown ash has some (10 to 29%) dieback. A total of 120,000 acres were classified as having reportable damage, 45,500 in class 1 and 75,500 in class 3. Classes 1 and 3 were used because the elm/ash/red maple type was used as an acreage base and stands of brown ash within the type are usually separated by more than 250 acres (scattered pattern).

To date no causal agents have been associated with this decline but several possibilities are under investigation.

ME

FOREST HEALTH WORKSHEET

DAMAGE (circle) 1
(Defoliation)
Mortality
Dieback/Decline
Branch Breakage
Mainstrem Broken or Uprooted
Discoloration
(Present but Below Threshold)
Healthy

FOREST TYPE (circle)
White/red/jack pine
Eastern spruce/fir
Oak/pine
Elm/ash/red maple
(Maple/beech/birch)
Aspen/birch

PRINCIPAL HOST
American Beech

SECONDARY HOST
Red Oak

TERTIARY HOST

SURVEY TYPE (circle)
(Aerial sketchmapping)
(Ground)
Photo
Other
Trapping

DAMAGE CAUSING AGENT
Variable Oakleaf Caterpillar
Scientific Name
Lochmaeus manteo

COUNTY(S)	DAMAGE ACRES OR NO. OF TREES	CLASS 2
Somerset Piscataquis Aroostook Washington	Light damage to lower branches and understory trees Damage below threshold	
Penobscot	45 acres	2

COMMENTS (trend/treatment)

Populations of variable oakleaf caterpillar continued to decline in all previously infested portions of the state but, larvae and light damage were seen in many areas. One area in T5 R1 (eastcentral Penobscot County) received moderate (class 2) defoliation on 45 acres of beech. This area was reported to the MFS by the owner and then visited on the ground by MFS staff. Defoliation was apparent from the ground but the damage was on lower branches and did not show from the air. The general trend for this insect has been downward for the last three years.

ME

FOREST HEALTH WORKSHEET

DAMAGE (circle) 1
Defoliation
Mortality
Dieback/Decline
Branch Breakage
Mainstrem Broken or Uprooted
Discoloration
Present but Below Threshold
(Healthy)

FOREST TYPE (circle)
(White/red/jack pine)
Eastern spruce/fir
Oak/pine
Elm/ash/red maple
Maple/beech/birch
Aspen/birch

PRINCIPAL HOST
White Pine

SECONDARY HOST

TERTIARY HOST

SURVEY TYPE (circle)
Aerial sketchmapping
(Ground)
(Photo)
Other
Trapping

DAMAGE CAUSING AGENT
White Pine Blister Rust
Scientific Name
Cronartium ribicola

COUNTY(S)	DAMAGE ACRES OR NO. OF TREES	CLASS 2
Cumberland	872 scouted	
York	4,125	

COMMENTS (trend/treatment)

A total of 4,997 acres that met pine stocking and quality criteria were control scouted for Ribes plants. In Cumberland County, 872 acres were scouted and 411 Ribe plants were destroyed. In York County, 4,034 plants were destroyed on 4,125 acres.

ME

FOREST HEALTH WORKSHEET

DAMAGE (circle) 1
Defoliation
(Mortality)
Dieback/Decline
Branch Breakage
Mainstrem Broken or Uprooted
Discoloration
Present but Below Threshold
Healthy

FOREST TYPE (circle)
White/red/jack pine
(Eastern spruce/fir)
Oak/pine
Elm/ash/red maple
Maple/beech/birch
Aspen/birch

PRINCIPAL HOST
Balsam Fir

SECONDARY HOST

TERTIARY HOST

SURVEY TYPE (circle)
(Aerial sketchmapping)
(Ground)
Photo
Other
Trapping

DAMAGE CAUSING AGENT
Stilwell's syndrome "Red Fir"
Scientific Name
None (likely Armillaria mellea

COUNTY(S)
Aroostook
Somerset
Piscataquis
Penobscot
Washington
Oxford
Franklin
Hancock

DAMAGE ACRES OR NO. OF TREES
Very low density (<2%)
Scattered individual fir trees

CLASS 2

COMMENTS (trend/treatment)

The occurance of this condition seemed unchanged from 1992. No new concentrations of red fir were found any of the affected portions of the state. Even though new symptomatic trees appear each season rates of occurance remain generally low.

ME

FOREST HEALTH WORKSHEET

DAMAGE (circle) 1
(Defoliation)
Mortality
Dieback/Decline
Branch Breakage
Mainstrem Broken or Uprooted
Discoloration
Present but Below Threshold
Healthy

FOREST TYPE (circle)
White/red/jack pine
Eastern spruce/fir
Oak/pine
Elm/ash/red maple
Maple/beech/birch
(Aspen/birch)

PRINCIPAL HOST
Bigtooth Aspen

SECONDARY HOST
Trembling Aspen

TERTIARY HOST

SURVEY TYPE (circle)
(Aerial sketchmapping)
(Ground)
Photo
Other
Trapping

DAMAGE CAUSING AGENT
Satin Moth
Scientific Name
Stilpntia salicis

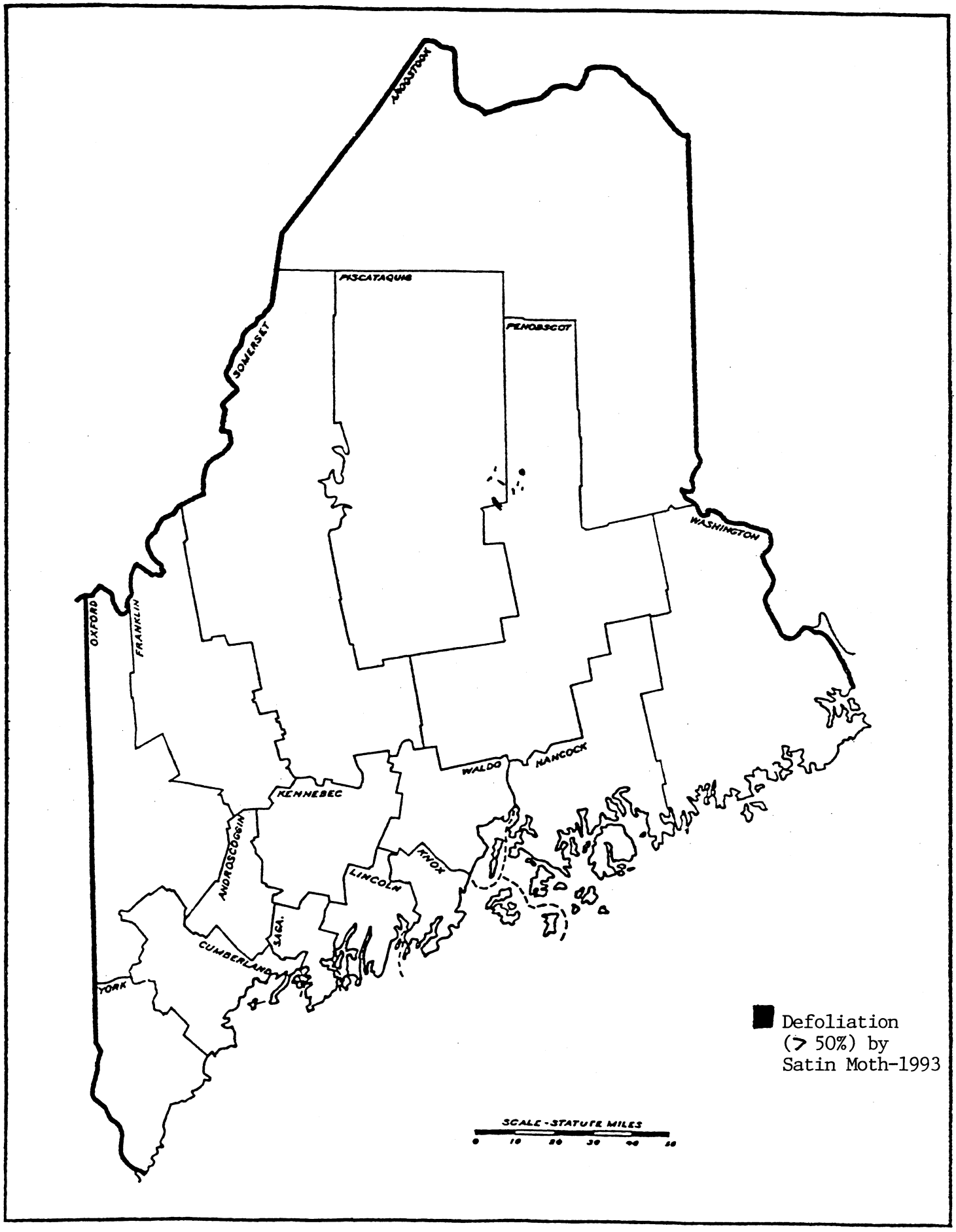
COUNTY(S)	DAMAGE ACRES OR NO. OF TREES	CLASS 2
Penobscot	620 acres	4
Piscataquis	810	4

COMMENTS (trend/treatment)

Defoliation by satin moth decline by about 50% in 1993 compared to 1992 (1,430 in 1993 acres compared to 2,600 in 1992). Defoliation occurred in the same general areas as in 1992 (see attached map). The intensity of defoliation within mapped areas was somewhat higher in 1993 than in 1992 even though fewer acres were defoliated.

1993

MAINE


AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
WASHINGTON
OXFORD
FRANKLIN
WALDO
HANCOCK
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
SAG.
CUMBERLAND
YORK
Defoliation
(> 50%) by
Satin Moth-1993
SCALE - STATUTE MILES
0 10 20 30 40 50

ME

FOREST HEALTH WORKSHEET

DAMAGE (circle) 1
Defoliation
Mortality
Dieback/Decline
Branch Breakage
Mainstem Broken or Uprooted
Discoloration
Present but Below Threshold
Healthy

FOREST TYPE (circle)
White/red/jack pine
Eastern spruce/fir
Oak/pine
Elm/ash/red maple
Maple/beech/birch
Aspen/birch

PRINCIPAL HOST
White Spruce

SECONDARY HOST
Red Spruce

TERTIARY HOST

SURVEY TYPE (circle)
Aerial sketchmapping
Ground
Photo
Other
Trapping

DAMAGE CAUSING AGENT
Spruce Beetle
Scientific Name
Dendroctonus rufipennis

COUNTY(S)	DAMAGE ACRES OR NO. OF TREES	CLASS 2
Hancock	50	2

COMMENTS (trend/treatment)

Aerial and ground surveys did not show any significant incidence of new spruce beetle attack in the Maine except on several coastal island in Hancock county. These new areas were all associated with either old or stressed white spruce. On some islands, the white spruce had grown on old pasture sites and soils were very poor. On other islands, stress caused by hemlock looper defoliation contributed to beetle attack. In other portions of Maine hit by spruce beetle in the late 80's attacked spruce were either salvaged or are now in an advanced stage of decay. Many susceptible spruce in these areas were never attacked. A few trees showing evidence of new beetle attack were found in and near the old large infested areas in 1993. A total of 9,100 acres of spruce beetle mortality (>25% of spruce dead) were reported in 1992. Significant new areas of beetle attack are not expected in 1994.

ME

FOREST HEALTH WORKSHEET

DAMAGE (circle) 1
(Defoliation)
Mortality
Dieback/Decline
Branch Breakage
Mainstrem Broken or Uprooted
Discoloration
Present but Below Threshold
Healthy

FOREST TYPE (circle)
(White/red/jack pine)
Eastern spruce/fir
Oak/pine
Elm/ash/red maple
Maple/beech/birch
Aspen/birch

PRINCIPAL HOST
Eastern hemlock

SECONDARY HOST
Balsam fir

TERTIARY HOST
White spruce

SURVEY TYPE (circle)
(Aerial sketchmapping)
(Ground)
(Photo)
(Other ESS)
(Trapping)

DAMAGE CAUSING AGENT
Eastern hemlock looper
Scientific Name
Lambdina fiscellaria

COUNTY(S)	DAMAGE ACRES OR NO. OF TREES	CLASS 2
Penobscot	32,000 acres	1
Washington	7,500	1
Hancock	1 900	1
Sagadahoc	700	1
Total	41,100	

COMMENTS (trend/treatment)

Hemlock looper (Lambdina fiscellaria) populations and resulting defoliation were generally low in most infested areas in 1993. Exceptions were found in some stands in Washington County where hemlock and fir trees received moderate defoliation. The 1992-93 egg survey had predicted moderate to severe populations in many portions of the 1992 defoliated area, but in some of these areas significant populations did not develop at all and in other areas initially high populations declined rapidly throughout the season. Several stands in Penobscot and Washington Counties which had high first and second instar population densities early in the season revealed few or no surviving larvae when rechecked in late June.

Aerial damage survey data from this season showed 41,100 acres of hemlock type in the moderate defoliation category (class 1 - 30 to 50 % of canopy area - >250 between). This figure compares to 218,000 acres of moderate to severe defoliation (classes 1 and 3) in 1992.

Extremely dry conditions during the summer of 1993 and cold, open conditions during much of last winter may have

ME

contributed to additional tree mortality in the hemlock and fir stands which were severely defoliated during 1991 and 1992. We are evaluating the impact of looper feeding on tree mortality in heavily damaged stands. A report on this study will be available early in 1994.

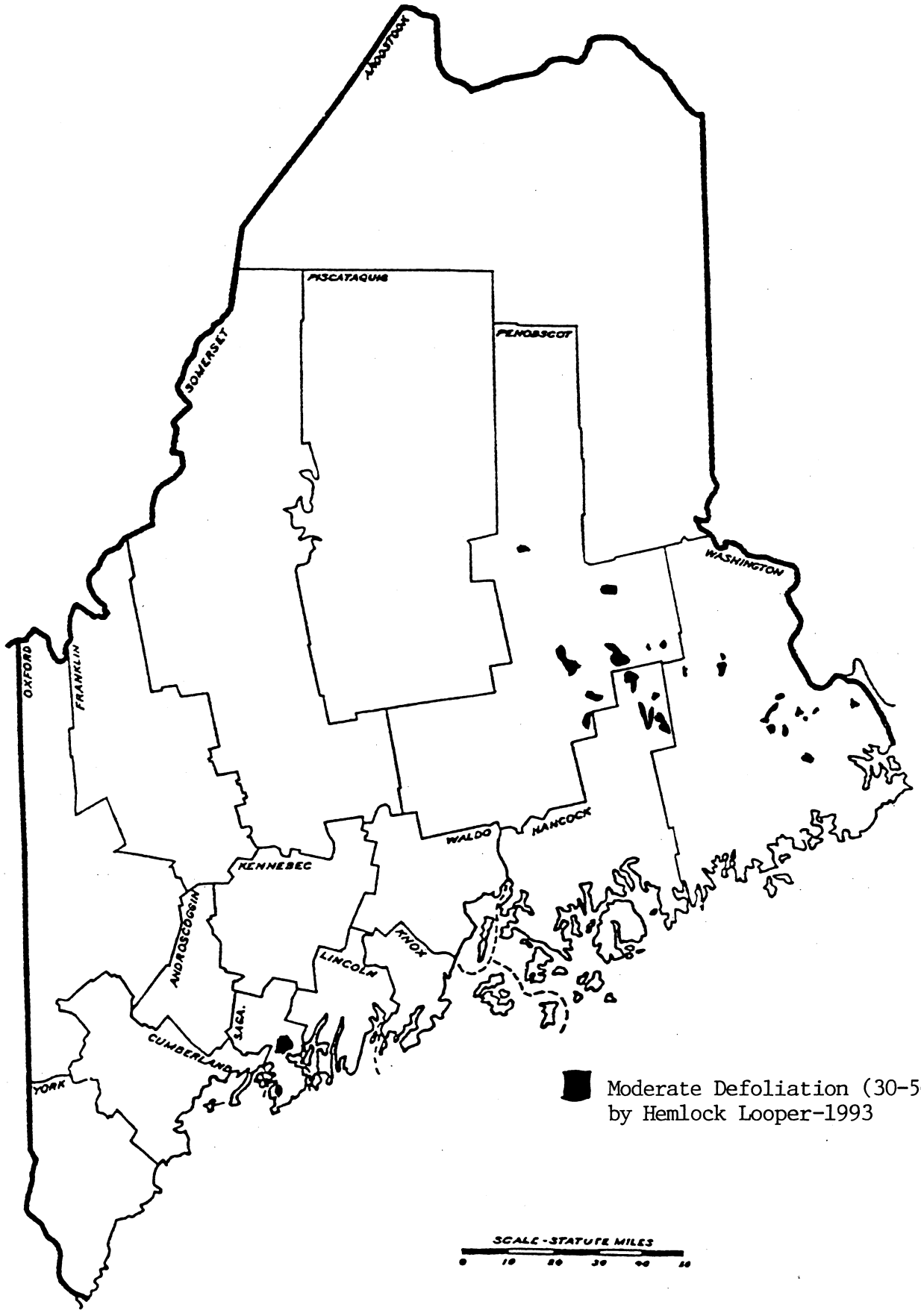
Hemlock looper moth activity was monitored again in 1993 using 11 of the Maine Forest Service light trap system locations. In addition, pheromone traps were deployed at 18 locations spread throughout the infested area. Both surveys showed a sharp reduction in looper moth activity, however, moths were caught at all pheromone and light trap locations.

The I&DM Division will conduct a hemlock looper egg survey again this winter but the size of the survey area will be greatly reduced compared to the past two years. This reduction reflects reduced damage by looper in 1993 and the expectation that looper populations will continue to collapse in 1994.

Although it is too early to be sure, Maine may have seen the last significant damage from this hemlock looper outbreak. The outbreak trend is definitely down.

1993

MAINE


AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
WASHINGTON
OXFORD
FRANKLIN
WALDO
HANCOCK
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
SAGA.
CUMBERLAND
YORK
Moderate Defoliation (30-50%)
by Hemlock Looper-1993
SCALE - STATUTE MILES
0 10 20 30 40 50

ME

FOREST HEALTH WORKSHEET

DAMAGE (circle) 1
Defoliation
Mortality
Dieback/Decline
Branch Breakage
Mainstrem Broken or Uprooted
Discoloration
Present but Below Threshold
Healthy

FOREST TYPE (circle)
White/red/jack pine
Eastern spruce/fir
Oak/pine
Elm/ash/red maple
Maple/beech/birch
Aspen/birch

PRINCIPAL HOST
Balsam Fir

SECONDARY HOST
Spruce

TERTIARY HOST

SURVEY TYPE (circle)
Aerial sketchmapping
Ground
Photo
Other
Trapping

DAMAGE CAUSING AGENT
Spruce Budworm
Scientific Name
Choristoneura fumiferana

COUNTY(S)	DAMAGE ACRES OR NO. OF TREES	CLASS 2
Aroostook	0	
Somerset	0	
Piscataquis	0	
Penobscot	0	
Washington	0	
Oxford	0	
Franklin	0	
Hancock	0	

COMMENTS (trend/treatment)

The Maine Forest Service, Insect and Disease Management Division did not detect any significant populations of spruce budworm larvae in 1993. MFS staff did visit a Christmas tree lot in mid coastal Maine where the owner had reported defoliation in 1992 and found evidence of light damage from 1992 budworm feeding. Larvae were easy to find in this stand early in the 1993 season but, larval numbers declined through the summer and no significant damage was observed. Apparently this localized population was a holdover from the recent outbreak and does not represent a resurgence of budworm in Maine. Reports of individual larvae in general survey and hemlock looper collections were down compared to 1992 observations. No defoliation by budworm was mapped either from the ground or aerially.

The MFS operated it's statewide network of 23 light traps through the budworm moth flight period. Moth catches in light traps remained very low as they have been for several years but actual numbers of moths caught increased slightly at 10 of 23 locations. The total number of moths caught at all locations went from 16 in 1992 to 51 in 1993

ME

Also, budworm moth activity was evaluated at 28 locations across the state with multi-pher traps baited with budworm pheromone provided by the U.S. Forest Service. Catch in the pheromone traps in 1993 was lower in all the location that had been trapped in 1992. All new pheromone locations established in 1993 also had low catches of budworm moths. Moth catch per pheromone trap had been less than one moth per trap for several years, however, in 1992 two eastern Maine locations had more than 25 moths per trap and three other locations had 10 or more moths per trap. Thirteen of the 28 pheromone location trapped in 1993 did produce more than one moth per trap and in general catch was higher than the extremely low catches seen between 1987 and 1991.